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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/760,194

01/21/2004

Kia Silverbrook

MPA19US

2173

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SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

EXAMINER

UHLENHAKE, JASON S

ART UNIT

PAPER NUMBER

2853

MAIL DATE

DELIVERY MODE

08/16/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/760,194

Applicant(s)

SILVERBROOK ET AL.

Examiner

Jason Uhlenhake

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over Silverbrook (U.S. Pat. 6,916,082) in view of Silverbrook (U.S. Pat. 6,439,908), Horvath et al (U.S. Pat. 6,705,705) and Ishikawa (U.S. Pat. 6,618,068).

Silverbrook ('082) discloses:

- ***regarding claim 1***, at least one printhead module (Abstract; Column 2, Lines 44 – 55), and at least two flexible printed circuit boards for connecting electrical signals to the at least two printhead integrated circuits, each flexible printed circuit board having a connecting portion (Column 2, Lines 63 – 65; Column 9, Lines 1 – 19; Column 10, Lines 32 – 35)
- drive electronics incorporating at least one controller which is connected to at least one of the at least two printhead integrated circuits via the respective flexible printed circuit board (58 of Figure 14) for controlling the printing operation of at least one of the at least two printhead integrated circuits (Column 2, Lines 63 – 65; Column 5, Lines 7 – 18, 30 -32)
- a casing in which the at least one printhead module and the drive electronics are removably mounted (Column 6, Lines 36 – 40)

- wherein the drive electronics is provided on a printed circuit board carrying respective connection ports for receiving, and connecting (interconnects) with, corresponding connecting portions of the flexible printed circuit boards (58) are aligned with the respective connection ports (Figures 8-9; Column 2, Lines 63 – 65; Column 9, Lines 1 – 19; Column 10, Lines 32 – 35)

- **regarding claim 2**, wherein the printed circuit board of the drive electronics is supported by a support frame of the casing (Abstract, Column 2, Lines 32 – 43)

- **regarding claim 3**, comprising a plurality of longitudinally extending electrical conductors removably mounted to the support frame and arranged to provide power from a power supply to the drive electronics and the at least two printhead integrated circuits (Column 5, Lines 42 – 46, 51 – 54)

- **regarding claim 4**, wherein power from the plurality of electrical conductors (68 of Figure 8) is delivered to the drive electronics and the printhead integrated circuits via the respective flexible printed circuit boards (58 of Figure 8; Column 5, Lines 31 – 32, 42 – 46)

- **regarding claim 5**, at least on printhead module formed as a unitary arrangement of at least two printhead integrated circuits (Column 2, Lines 44 – 68)

- support member, the at least two flexible printed circuit boards, at least one fluid distribution member mounting the at least two printhead integrated circuits to the support member (Column 2, Lines 35 – 65)

- the support member has at least one longitudinally extending channel (62 of Figure 1) for carrying the printing fluid for the printhead integrated circuits (Column 3, Lines 1 – 15), plurality of apertures extending through a wall of the support member arranged so as to direct the printing fluid from the at least one channel to associated nozzles in both , or if more than two, all of the printhead integrated circuits by way of respective ones of the fluid distribution members (Column 2, Lines 40 – 43; Column 3, Lines 1 – 15)

- **regarding claim 6**, support member incorporates lugs which cooperate with recesses of the casing so as to provide direct alignment of the connecting portions and connecting ports (157 of Figure 6)

Silverbrook ('082) does not disclose expressly the following:

- **regarding claim 1**, at least one printhead module comprising at least two printhead integrated circuits, each of which has nozzles formed therein for delivering printing fluid onto the surface of print media and a support member supporting and carrying the printing fluid for the at least two printhead integrated circuits

- each circuit board having a connecting portion; a printed circuit board carrying respective slotted connection ports for receiving, and connecting with the corresponding connecting portions of the circuit boards, the connecting portions being configured to slot within the slotted connection ports

- the casing is configured to allow movement of the connected printhead module and print circuit board relative to the casing

Silverbrook ('908) discloses:

- **regarding claim 1**, at least one printhead module (10 of Figure 2) comprising at least two printhead integrated circuits (18 of Figure 4), each of which has nozzles formed therein for delivering printing fluid onto the surface of print media (Column 3, Lines 45 – 47) and one support member (16 of Figure 7) supporting and carrying the printing fluid for the at least two printhead integrated circuits (Column 3, Lines 6 – 8), for the purpose of easily removing and replacing any defective modules.

Horvath discloses:

- **regarding claim 1**, the casing is configured to allow movement of the connected printhead module and print circuit board relative to the casing (Column 11, Lines 55-67), for the purpose of maintaining alignment and/or positioning between the printhead dies during operation of the printhead assembly

Ishikawa discloses:

- **regarding claim 1**, each circuit board (22b) having a connecting portion (23); a printed circuit board (22a) carrying respective slotted connection ports for receiving, and connecting with the corresponding connecting portions of the circuit boards, the connecting portions being configured to slot within the slotted connection ports (Figure 4; Column 8, Lines 44-61), for the purpose of the design being compact and lightweight

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Silverbrook ('908), Horvath and Ishikawa into the device of Silverbrook ('082), for the purpose of easily removing and replacing any defective modules and the design being compact and lightweight.

Art Unit: 2853

Response to Arguments

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection. Please see above rejections regarding Silverbrook (U.S. Pat. 6,916,082) in view of Silverbrook (U.S. Pat. 6,439,908) and Ishikawa (U.S. Pat. 6,618,068).


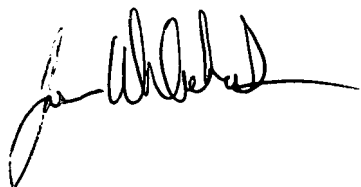
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JSU
August 6, 2007



STEPHEN MEIER
SUPERVISORY PATENT EXAMINER